

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

Claims 1-123 (Canceled)

124. (Withdrawn) A method of synthesizing a bispecific antibody comprising the steps of:

- (i) expressing a gene having a sequence selected from the group consisting of:
VH antibody 1-S-VL antibody 1-S-VL antibody 2-S-VH antibody 2; VH antibody 1-S-VL antibody 1-S-VH antibody 2-S-VL antibody 2; VL antibody 1-S-VH antibody 1-S-VL antibody 2-S-VH antibody 2; VL antibody 1-S-VH antibody 1-S-VH antibody 2-S-VL antibody 2; wherein -S- is a linker sequence; and
- (ii) isolating said bispecific antibody.

125. (Withdrawn) A method as in claim 124 wherein antibody 1 is an antibody capable of binding to an epitope of a specific cell, and antibody 2 is a catalytic antibody.

126. (Withdrawn) A method of synthesizing a bispecific antibody comprising the steps of:

- (i) expressing a gene having the sequence: VL antibody 1-S-VH antibody 2, and
- (ii) expressing a gene having the sequence: VH antibody 1-S-VL antibody 2,
- (iii) combining the products of steps (i) and (ii), and
- (iv) isolating said bispecific antibody, wherein -S- is a linker sequence.

127. (Withdrawn) A method of synthesizing a bispecific antibody comprising the steps of:

- (i) expressing a gene having the sequence; VL antibody 2-S-VH antibody 1, and
- (ii) expressing a gene having the sequence; VH antibody 2-S-VL antibody 1,
- (iii) combining the products of steps (i) and (ii), and
- (iv) isolating said bispecific antibody, wherein -S- is a linker sequence.

Claims 128-132 (Cancelled)

133. (Withdrawn) A method as in claim 124, wherein antibodies 1 and 2 recognize two different cell types.

134. (Withdrawn) A method as in claim 126, wherein antibody 1 is an antibody capable of binding to an epitope of a specific cell, and antibody 2 is a catalytic antibody.

135. (Withdrawn) A method as in claim 126, wherein antibodies 1 and 2 recognize two different cell types.

136. (Withdrawn) A method as in claim 127, wherein antibody 1 is an antibody capable of binding to an epitope of a specific cell, and antibody 2 is a catalytic antibody.

137. (Withdrawn) A method as in claim 127, wherein antibodies 1 and 2 recognize two different cell types.

138. (Withdrawn) A method of synthesizing a bispecific antibody comprising the steps of:

- (i) expressing a single chain protein comprising the VH and VL regions of a first antibody (antibody 1) and the VH and VL regions of a second antibody (antibody 2) and

(ii) isolating said bispecific antibody.

139. (Withdrawn) A method as in claim 1.38, wherein antibody 1 is an antibody capable of binding to an epitope of a specific cell, and antibody 2 is a catalytic antibody.

140. (Withdrawn) A method as in claim 138, wherein antibodies 1 and 2 recognize two different cell types.

141. (Withdrawn) A method of synthesizing a bispecific antibody comprising the steps of:

- (i) expressing a single chain protein comprising the VH region of a first antibody (antibody 1) and the VL region of a second antibody (antibody 2);
- (ii) expressing a single chain protein comprising the VL region of antibody 1 and the VH region of antibody 2;
- (iii) combining the products of steps (i) and (ii); and
- (iv) isolating said bispecific antibody.

142. (Withdrawn) A method as in claim 141, wherein antibody 1 is an antibody capable of binding to an epitope of a specific cell, and antibody 2 is a catalytic antibody.

143. (Withdrawn) A method as in claim 141, wherein antibodies 1 and 2 recognize two different cell types.

144. (Withdrawn) A method of synthesizing a recombinant antibody comprising the steps of:

- (i) expressing two single chain polypeptides, each of said single chain polypeptides comprising an antibody VH region and an antibody VL region;
- (ii) combining said two single chain polypeptides so that they associate; and

(iii) isolating said recombinant antibody.

145. (Withdrawn) A method as in claim 144, wherein said recombinant antibody is bispecific.

146. (Withdrawn) The recombinant antibody of claim 176, wherein said polypeptide further comprises a second VL region, said second VL region sequence taken from said first antibody (antibody 1) and a second VH region said second VH region sequence taken from said second antibody (antibody 2).

147. (Withdrawn) The recombinant antibody as in claim 146, wherein said polypeptide chain has a sequence selected from the group consisting of VH antibody 1-S-VL antibody 1-S-VL antibody 2-S-VH antibody 2; VH antibody 1-S-VL antibody 1-S-VH antibody 2-S-VL antibody 2; VL antibody 1-S-VH antibody 1-S-VL antibody 2-S-VH antibody 2; and VL antibody 1-S-VH antibody 1-S-VH antibody 2-S-VL antibody 2; and wherein -S- is a linker sequence.

148. (Withdrawn) The recombinant antibody as in claim 147, wherein antibody 1 is an antibody capable of binding to an epitope of a specific cell, and antibody 2 is a catalytic antibody.

149. (Withdrawn) The recombinant antibody as in claim 147, wherein antibody 2 is an antibody capable of binding to an epitope of a specific cell, and antibody 1 is a catalytic antibody.

150. (Withdrawn) The recombinant antibody as in claim 147, wherein antibodies 1 and 2 recognize two different cell types.

151. (Withdrawn) A vector containing a nucleic acid that encodes said recombinant antibody of claim 147.

152. (Withdrawn) A host cell that produces said recombinant antibody of claim 147.
153. (Withdrawn) A bacteriophage containing a nucleic acid that encodes said recombinant antibody of claim 147.
154. (Withdrawn) The recombinant antibody as in claim 146, wherein antibody is an antibody capable of binding to an epitope of a specific cell, and antibody 2 is a catalytic antibody.
155. (Withdrawn) The recombinant antibody as in claim 146, wherein antibody 2 is an antibody capable of binding to an epitope of a specific cell, and antibody 1 is a catalytic antibody.
156. (Withdrawn) The recombinant antibody as in claim 146, wherein antibodies 1 and 2 recognize two different cell types.
157. (Withdrawn) A vector containing a nucleic acid that encodes said recombinant antibody of claim 146.
158. (Withdrawn) A host cell that produces said recombinant antibody of claim 146.
159. (Withdrawn) A bacteriophage containing a nucleic acid that encodes said recombinant antibody of claim 146.
160. (Withdrawn) The recombinant antibody of claim 176, further comprising second polypeptide comprising the VL region of antibody 1 and the VH region of antibody 2.
161. (Withdrawn) The recombinant antibody of claim 160, wherein said first polypeptide comprises the sequence VL antibody 1-S-VH antibody 2, said second polypeptide comprises the sequence VH antibody 1-S-VL antibody 2, and -S- is a linker sequence.
162. (Withdrawn) The recombinant antibody of claim 161, wherein antibody 1 is an antibody capable of binding to an epitope of a specific cell, and antibody 2 is a catalytic antibody.
163. (Withdrawn) The recombinant antibody of claim 161, wherein antibody 2 is an antibody capable of binding to an epitope of a specific cell, and antibody 1 is a catalytic antibody.

164. (Withdrawn) The recombinant antibody of claim 161, wherein antibodies 1 and 2 recognize two different cell types.

165. (Withdrawn) A vector containing a nucleic acid that encodes for a recombinant antibody as in claim 161.

166. (Withdrawn) A host cell that produces a recombinant antibody as in claim 161.

167. (Withdrawn) A bacteriophage containing a nucleic acid that encodes for a recombinant antibody as in claim 161.

168. (Withdrawn) The recombinant antibody of claim 160, wherein antibody 1 is an antibody capable of binding to an epitope of a specific cell, and antibody 2 is a catalytic antibody.

169. (Withdrawn) The recombinant antibody of claim 160, wherein antibody 2 is an antibody capable of binding to an epitope of a specific cell, and antibody 1 is a catalytic antibody.

170. (Withdrawn) The recombinant antibody of claim 160, wherein antibodies 1 and 2 recognize two different cell types.

171. (Withdrawn) A vector containing a nucleic acid that encodes for a recombinant antibody as in claim 160.

172. (Withdrawn) A host cell that produces a recombinant antibody as in claim 160.

173. (Withdrawn) A bacteriophage containing a nucleic acid that encodes for a recombinant antibody as in claim 160.

174. (Previously Presented) The recombinant antibody of claim 176 further comprising a second single chain polypeptide, said second single chain polypeptide comprising an antibody VH region and an antibody VL region.

175. (Previously Presented) The recombinant antibody of claim 174, wherein said recombinant antibody is bispecific.

176. (Currently Amended) A recombinant antibody comprising a first single chain polypeptide comprising one antibody VH region, said VH region sequence taken from a first antibody (antibody 1) and one antibody VL region, said VL region sequence taken from a second antibody (antibody 2).

177. (Withdrawn) The recombinant antibody as in claim 176, wherein said polypeptide has a sequence selected from the group consisting of VL antibody 2-S-VH antibody 1 and VH antibody 1-S-VL antibody 2, and -S- is a linker sequence.

178. (Withdrawn) A gene that encodes a polypeptide chain that comprises the VH and VL regions of a first antibody (antibody 1) and the VH and VL regions of a second antibody (antibody 2).

179. (Withdrawn) A gene as in claim 178, wherein said polypeptide chain has a sequence selected from the group consisting of VH antibody 1-S-VL antibody 1-S-VL antibody 2-S-VH antibody 2; VH antibody 1-S-VL antibody 1-S-VH antibody 2-S-VL antibody 2; VL antibody 1-S-VH antibody 1-S-VL antibody 2-S-VH antibody 2; and VL antibody 1-S-VH antibody 1-S-VH antibody 2-S-VL antibody 2; and wherein -S- is a linker sequence.

180. (Withdrawn) A gene that encodes a polypeptide chain that comprises one antibody VH region, said VH region sequence taken from a first antibody (antibody 1) and one VL region, said VL region sequence taken from a second antibody (antibody 2).

181. (Withdrawn) A gene as in claim 180, wherein said polypeptide comprises a sequence selected from the group consisting of VL antibody 2-S-VH antibody 1 and VH antibody 1-S-VL antibody 2, and -S- is a linker sequence.